

THE INVENTION CLAIMED IS:

1. A tie plate, comprising:
 - a base plate having a first surface and defining a peripheral edge;
 - a pair of longitudinally-extending shoulder members defined on said base plate, said pair of longitudinally-extending shoulder members define a recessed area on said first surface of said base plate for accommodating a railroad rail therebetween;
 - a layer of electrically-insulating material covering at least a portion of said base plate; and
 - a plurality of slots defined on said base plate, wherein said slots are adapted to receive fasteners for securing a railroad rail.
2. The tie plate as claimed in claim 1, wherein said pair of longitudinally-extending shoulder members extend a width of said base plate.
3. The tie plate as claimed in claim 1, wherein said layer encapsulates said base plate.
4. The tie plate as claimed in claim 1, wherein said layer covers said first surface of said base plate.
5. The tie plate as claimed in claim 1, wherein said layer covers said recessed area and said pair of longitudinally-extending shoulder members on said first surface of said base plate.
6. The tie plate as claimed in claim 1, wherein said base plate is a metallic core.
7. The tie plate as claimed in claim 1, wherein said pair of longitudinally-extending shoulder members are made of an electrically-insulating material.
8. The tie plate as claimed in claim 1, wherein said electrically-insulating material comprises a polymeric material.

9. The tie plate as claimed in claim 1, wherein said electrically-insulating material comprises a polymeric material containing reinforcing fibers.

10. The tie plate as claimed in claim 1, wherein said slots each define an inner surface, said inner surface covered by an inner layer made of an electrically-insulating material.

11. The tie plate as claimed in claim 10, wherein said inner layer is molded onto said inner surface of said slots on said base plate.

12. The tie plate as claimed in claim 10, wherein said inner layer is insertable into said slots on said base plate.

13. The tie plate as claimed in claim 10, wherein said layer and said inner layer are made of the same electrically-insulating material.

14. A tie plate assembly for a railroad rail, comprising:
an electrically-insulated tie plate adapted to receive a railroad rail;
a plurality of slots defined on said tie plate;
a fastener passing through one of said slots for securing said tie plate to a rail tie; and
an electrically-insulated clip secured to said tie plate via said fastener, said clip having a surface for coacting with the railroad rail for securing the railroad rail to said tie plate.

15. The tie plate assembly as claimed in claim 14, wherein said surface of said clip comprises a first ledge adapted to coact with the railroad rail for securing the railroad rail to said tie plate.

16. The tie plate assembly as claimed in claim 14, wherein said surface of said clip further coacts with a rail joint attached to the railroad rail for securing the railroad rail to said tie plate.

17. The tie plate assembly as claimed in claim 16, wherein said surface of said clip comprises a second ledge adapted to coact with a rail joint attached to the railroad rail for securing the railroad rail to said tie plate.

18. The tie plate assembly as claimed in claim 14, wherein said tie plate is made of an electrically-insulated material.

19. The tie plate assembly as claimed in claim 14, wherein said tie plate is made of fiberglass.

20. The tie plate assembly as claimed in claim 14, wherein said tie plate comprises a base plate having a first surface and defining a peripheral edge, a pair of longitudinally-extending shoulder members defined on said base plate, said pair of longitudinally-extending shoulder members define a recessed area on said first surface of said base plate for accommodating a railroad rail therebetween, and a layer of electrically-insulating material covering at least a portion of said base plate.

21. The tie plate assembly as claimed in claim 14, wherein said clips are made of an electrically-insulating material.

22. The tie plate assembly as claimed in claim 14, wherein said clips are made of fiberglass.

23. An electrically-insulated tie plate, comprising:
a metallic core having a first surface and defining a peripheral edge;
a plurality of slots having an inner surface defined in said metallic core;
a pair of longitudinally-extending shoulder members defined on said metallic core, said pair of longitudinally-extending shoulder members define a recessed area on said first surface of said metallic core for accommodating a railroad rail therebetween; and
a layer of electrically-insulating material covering said first surface of said metallic core and said inner surface of said slots.

24. The tie plate as claimed in claim 23, wherein said pair of longitudinally-extending shoulder members are made of an electrically-insulating material.

25. An electrically-isolated railroad rail system, comprising:
a pair of railroad rails;
a rail joint attaching each of said railroad rails together;
an electrically-insulated tie plate having a plurality of slots for receiving said attached railroad rails;
a fastener passing through one of said slots for securing said tie plate to a rail tie; and
an electrically-insulated clip secured to said tie plate via said fastener, said clip having a surface for coacting with said railroad rail and said rail joint.

26. A tie plate as claimed in claim 5, wherein said layer is an extruded member adhered to said first surface of said base plate.